**DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

# WELDING INSPECTION REPORT

**Resident Engineer:** Casey, William
**Address:** 333 Burma Road
**City:** Oakland, CA 94607

**Report No:** WIR-028182
**Date Inspected:** 14-Aug-2012

**Project Name:** SAS Superstructure
**Prime Contractor:** American Bridge/Fluor Enterprises, a JV
**Contractor:** American Bridge/Fluor Enterprises, a JV

**OSM Arrival Time:** 700
**OSM Departure Time:** 1930
**Location:** Job Site

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|---|---|---|---|---|---|---|---|---|
| **CWI Name:** | As noted below. | | | **CWI Present:** | ☑ Yes | ☐ No | | |
| **Inspected CWI report:** | ☐ Yes | ☐ No | ☑ N/A | **Rod Oven in Use:** | ☐ Yes | ☐ No | ☑ N/A | |
| **Electrode to specification:** | ☐ Yes | ☐ No | ☑ N/A | **Weld Procedures Followed:** | ☐ Yes | ☐ No | ☑ N/A | |
| **Qualified Welders:** | ☐ Yes | ☐ No | ☑ N/A | **Verified Joint Fit-up:** | ☐ Yes | ☐ No | ☑ N/A | |
| **Approved Drawings:** | ☐ Yes | ☐ No | ☑ N/A | **Approved WPS:** | ☐ Yes | ☐ No | ☑ N/A | |
| | | | | **Delayed / Cancelled:** | ☐ Yes | ☑ No | ☐ N/A | |

**Bridge No:** 34-0006
**Component:** Tower

**Summary of Items Observed:**

Quality Assurance Inspector (QA) William Clifford was at the American Bridge/Fluor (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

Ultrasonic Testing of ESW
ESW W, Face B:

This QA performed Ultrasonic Testing (UT) on approximately 1600mm of Tower Electroslag Complete Joint Penetration (CJP) shear plate weld designated as “ESW W” face B. Location (Y=5150~6750) of this weld was inspected using this testing method.

This weld was previously accepted by QC Ultrasonic technicians in accordance with supplemental procedure SE-UT-D1.5-CT-108-ESW-R5.

This QA observed no recordable longitudinal indications at the time of testing.

This QA observed no recordable transverse indications at the time of testing.

*Note: Due to stiffener plates (2 x’s 45mm) and the 9m diaphragm plate (1 x’s 50mm) approximately 140mm of this weld could not be full volumetrically scanned from this face.

This QA generated a TL-6027 UT report on this date.

This QA performed UT of weld designated as ESW W in accordance with the approved supplemental procedure. This testing was performed in tandem with QC technician Scott Kortum. Tandem report for work performed on this date will be completed by QC technician and signed by both QA/QC parties. Items listed on tandem report

reflect indications agreed upon by QA/QC. Due to QA/QC disagreement on indication interpretation, tandem report may not reflect all indications discovered by QA at time of testing. Please see TL-6027 for complete listing of QA recorded indications.

ESW N, Face B:

This QA performed Ultrasonic Testing (UT) on approximately 1600mm of Tower Electroslag Complete Joint Penetration (CJP) shear plate weld designated as "ESW N" face B. Location (Y=5150~6750) of this weld was inspected using this testing method.

This weld was previously accepted by QC Ultrasonic technicians in accordance with supplemental procedure SE-UT-D1.5-CT-108-ESW-R5.

This QA observed two (2) rejectable longitudinal indications at the time of testing.

This QA observed three (2) recordable longitudinal indications at the time of testing.

This QA observed four (9) recordable transverse indications at the time of testing.

*Note: Due to stiffener plates (2 x's 45mm) and the 9m diaphragm plate (1 x's 50mm) approximately 140mm of this weld could not be full volumetrically scanned from this face.

This QA generated a TL-6027 UT report on this date.

The following indications were observed as having a transverse orientation. Due to joint configuration and weld cap shape these indications could not be evaluated for length or "X" location.

Indication #1: Y= 6910mm
Sizing – A=79db, B= 51db, C= 5db, D= 23db
Sound Path= 94.78mm, Depth= 31.63mm

Indication #2: Y= 6700mm
Sizing – A=80db, B= 51db, C= 5db, D= 24db
Sound Path= 92.90mm, Depth= 31.01mm

Indication #3: Y= 6540mm
Sizing – A=80db, B= 51db, C= 6db, D= 23db
Sound Path= 97.63mm, Depth= 32.58mm

Indication #4: Y= 6030mm
Sizing – A=78db, B= 51db, C= 5db, D= 22db
Sound Path= 94.78mm, Depth= 31.63mm

Indication #5: Y= 5625mm
Sizing – A=79db, B= 51db, C= 6db, D= 22db
Sound Path= 99.24mm, Depth= 33.12mm

Indication #6: Y= 5585mm
Sizing – A=78db, B= 51db, C= 9db, D= 18db
Sound Path= 142.7mm, Depth= 47.65mm

Indication #7: Y= 5570mm
Sizing – A=76db, B= 51db, C= 8db, D= 17db
Sound Path= 126.4mm, Depth= 42.20mm

Indication #8: Y= 5540mm
Sizing – A=77db, B= 51db, C= 7db, D= 19db
Sound Path= 107.8mm, Depth= 36.01mm

Indication #9: Y= 5450mm
Sizing – A=76db, B= 51db, C= 6db, D= 19db
Sound Path= 105.9mm, Depth= 35.38mm

The following indications were observed as having a longitudinal orientation.

Indication #1: Y= 5775mm
Sizing – A=54db, B= 51db, C= 5db, D= -1db
X= -2mm, L= 40mm
Sound Path= 84.43mm, Depth= 28.18mm

Indication #2: Y= 5515mm
Sizing – A=68db, B= 51db, C= 6db, D= 11db
X= -2mm, L= 30mm
Sound Path= 104.6mm, Depth= 24.94mm

Indication #3: Y= 5485mm
Sizing – A=66db, B= 51db, C= 6db, D= 9db
X= -8mm, L= 40mm
Sound Path= 96.38mm, Depth= 32.17mm

Indication #4: Y= 5210mm
Sizing – A=55db, B= 51db, C= 4db, D= 0db
X= -5mm, L= 40mm
Sound Path= 78.51mm, Depth= 25.30mm

This QA performed UT of weld designated as ESW N in accordance with the approved supplemental procedure. This testing was performed in tandem with QC technician Scott Kortum. Tandem report for work performed on this date will be completed by QC technician and signed by both QA/QC parties. Items listed on tandem report reflect indications agreed upon by QA/QC. Due to QA/QC disagreement on indication interpretation, tandem report may not reflect all indications discovered by QA at time of testing. Please see TL-6027 for complete listing of QA recorded indications.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

# WELDING INSPECTION REPORT

*( Continued Page 4 of 4 )*

**Summary of Conversations:**

Conversations were relevant to testing performed.

**Comments**

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

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|---|---|---|
| **Inspected By:** | Clifford,William | Quality Assurance Inspector |
| **Reviewed By:** | Levell,Bill | QA Reviewer |